

DESCRIPTION OF A NEW DRAGON FLY FROM LOWER SIAM BELONGING TO THE GENUS UROTHEMIS

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The new species described below belongs to the Libellulid subfamily Libellulinae. The material from which the species is described was collected by Dr. W. L. Abbott and forwarded to me for study by the United States National Museum. Since a detailed report on the oriental material of the subfamily Libellulinae can not be completed for some time it seems desirable to publish the description of this interesting new form in advance of the complete report.

UROTHEMIS ABBOTTI, new species

Material.—One male (holotype). One female (allotype). Two males (paratypes).

Data.—Trong, Lower Siam. Dr. W. L. Abbott. (Coll. U. S. Nat. Mus.) (Specimens to be returned to U. S. National Museum.)

Venation.

I. Ante and post nodal cross nerves.

$\frac{7-8}{7-6}$	$\frac{8-7}{6-7}$	holotype.	$\frac{7-8}{7-6}$	$\frac{8-7}{6-7}$	allotype.
$\frac{7-8}{7-5}$	$\frac{8-7}{5-7}$	paratype a.	$\frac{7-9}{8-6}$	$\frac{8-7}{6-7}$	paratype b.

II. Cell rows of discoidal field of fore wing.

Between the triangle and the beginning of *Mspl* there lie seven or eight rows of cells in this field. After the first cell the row is generally three cells deep, but in the specimen indicated as paratype *b* the row is only two cells deep, on the right side for the first six cells, on the left side for the second to the sixth cell.

Mspl incloses invariably a single row of cells, about six in number.

III. Rows of cells between *Rs* and *Rspl*.

Invariably two cells deep at its center, on both fore and hind wing, for a distance of one, two, or even three cells. The supplement incloses a row of nine or ten cells. It is two cells deep for a length of—

$\frac{1 \text{ cell}}{2 \text{ cells}}$	$\frac{2 \text{ cells}}{1 \text{ cell}}$	holotype.	$\frac{3 \text{ cells}}{3 \text{ cells}}$	$\frac{3 \text{ cells}}{1 \text{ cell}}$	allotype.
$\frac{3 \text{ cells}}{3 \text{ cells}}$	$\frac{3 \text{ cells}}{2 \text{ cells}}$	paratype a.	$\frac{1 \text{ cell}}{1 \text{ cell}}$	$\frac{1 \text{ cell}}{1 \text{ cell}}$	paratype b.

In these characters *abbotti* shows a departure from the characterization of the genus *Urothemis* as given by Dr. F. Ris in the monograph. In other respects the venation is that characteristic of the genus. Doctor Ris has examined the wing photograph, and has kindly written to me that in his opinion the differences noted above render a slight modification in the generic character necessary, but that the species is undoubtedly to be referred to *Urothemis*.

The alterations necessary in the generic definition then are as follows:

Seven or eight antenodal cross nerves in the fore wing. Between *Rs* and *Rspl* one row of cells, or for a distance of one to three cells two rows. Discoidal field of fore wing of two or three rows of cells.

Dimensions.—Length of abdomen, male, 26 mm.; female, 25 mm.; of hind wing, male, 36.5 mm.; female, 37.5 mm.

Male—Coloring.—Wings slightly suffused with golden-brown throughout, this coloring becoming a little more intense apically. Veins brown, the costa and subcosta lighter than the rest up to the nodus. Base of fore wing suffused with rich golden-brown; this extends to the second antenodal cross nerve, to the arculus, and to the inner angle of the internal triangle, and thence to the anal margin of the wing.

The base of the hind wing is similarly colored; the golden-brown suffusion extends from the base to about halfway between the second and third antenodal, covers the basal half of the supratriangle and triangle, and thence is continued back over the anal area of the wing, the area covered by it having a semicircular outline not reaching the anal margin. Within the suffusion there are two patches of sharply defined dark-brown coloring, the smaller covering the basal half of the supratriangle and triangle and filling the subtriangle; the second, roughly oval in outline, extends back from the neck of the "Italian loop," its antero-posterior diameter covering about three cells, its transverse, greater diameter about six cells.

Head, eyes dark brown, otherwise ochraceous, but the vesicle of the frons with a warm red tinge. Antennae black.

Prothorax apparently entirely black.

Synthorax yellowish-brown, anterior mesothoracic margin black, a small black mark on the second lateral suture; the alar sinuses and coxal sutures also black.

Abdomen red-brown, dorsum of first segment and a narrow longitudinal line on the dorsum of eighth and ninth segments black.

Anal appendages of the same color as the abdomen.

Legs, yellowish-brown; articulations, spines and tarsi very dark brown.

Female.—Very similar in appearance to the male. The dark color patches on the hind wing decidedly less extensive than in the male. The hinder patch is circular rather than oval in outline, and has a diameter of about 3-4 cells.

Other differences are as follows: On the head the vesicle of the frons is without any red tinge. The general color of the synthorax and abdomen is duller. Segments 3-7 have an apical dorsal mark of black, the black band on the dorsum of 8-9 is broader than in the male, and 10 has a very narrow basal ring of black. As in the male the black markings on the abdominal segment have a slightly metallic gloss.

Genital appendages.—The genital structures agree more closely with those of *signata* than with the African species. The appendages of the second abdominal segment of the male are very similar to those of Indian specimens of *signata*. The hamule is moderately broad and very slightly longer than the lobus. Similarly the valvulae vulvae of the female are almost exactly like those of the specimen from Calcutta figured by Dr. F. Ris in his monograph,¹ the only difference being that in *abbotti* the valvulae are a little longer, equaling in length the ninth segment.

A comparison with the other species of the genus suggests that in venation the species is rather nearer to the African species than to *signata*, the only other Asiatic species, whilst in other respects *abbotti* resembles its Asiatic congener rather than the African forms. It is, however, amply distinct from them all.

I have seen a much damaged example of *abbotti* from Singapore amongst material sent to me by Mr. Moulton. The range of the species would appear to be the west coast of the Malay Peninsula. One may surmise that it is an inhabitant of the mangrove swamps which form so conspicuous a feature of that coast.

The terms employed in discussing the venation of the species are those used by Dr. F. Ris in the Selysian monograph.¹ For the wing photo of the holotype I am indebted to Mr. F. W. Campion.

Lastly, it gives me much pleasure to associate this fine new species with the name of Dr. W. L. Abbott, by whom it was collected.

Type, allotype, and paratype.—Cat. No. 50247, U.S.N.M.

¹ Catalogue Systématique et Descript. Collections Zoologiques du Baron Edm. de Selys-Longchamps, fasc. ix-xvi, Libellulinae par Dr. F. Ris.